

THE INTEGRATED CIRCUIT DATA BOOK



MOTOROLA Semiconductor Products Inc.

GENERAL INFORMATION

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Digital Circuits Applications Selector Guide

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MHTL

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Application Selector Guide
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Differential Amplifiers
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THE INTEGRATED CIRCUIT DATA BOOK

In the entire dynamic history of electronics, no facet of the industry has moved as rapidly from concept to implementation as has the field of integrated circuits. Already, after only 10 years of development, integrated circuits are replacing discrete-component circuits in all major computer applications and in many other digital functions as well. The linear area of applications, though somewhat lagging the digital field, is now expanding at a rate reminiscent of earlier days when new designs were emerging from the laboratories faster than they could be effectively introduced to the marketplace.

Since an integrated circuit represents a significantly larger portion of each equipment design than any single discrete component, the design engineers' cognizance of new products and their capabilities becomes increasingly vital. To the dissemination of this information, in the most useful form, the Integrated Circuit Data Book is dedicated.

This Data Book contains data sheet specifications and other applications and test data for all standard Motorola integrated circuits manufactured at the time of its publication. A complete, alpha-numeric index, page 1-1, lists and identifies all devices contained in the book and refers the reader to the proper section and page number where each device is fully characterized. Tabbed contents pages at the front and back of the book provide quick entry to the specific device section of interest.

The book covers both digital and linear integrated circuits. The digital families are subdivided as needed to group complete information for a specific logic series — data sheets and general information containing the major features and applications of that specific series. In addition, a complete "spread" of logic diagrams is included to permit quick selection of a first-order device lineup for most efficient system implementation.

The linear device section fully characterizes circuits encompassing the entire range of applications from audio to RF. A quick selection guide at the front of this section provides rapid comparison of the various circuits.

In view of the rapidly expanding technology, no book of this type can hope to remain current for any extended period of time. Therefore, the Integrated Circuit Data Book will be updated with a minimum of two supplements, as described on the following page, before the second edition of the Data Book will be published. In this way, it is hoped this effort provides a needed service that will result in significant savings of search time in the implementation of integrated circuit systems.

The information in this book has been carefully checked and is believed to be reliable; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of semiconductor devices any license under the patent rights of any manufacturer.

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1st Edition, August 1968

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DATA BOOK UPDATING SERVICE

Because of large numbers of new integrated circuit devices introduced each year, provisions have been made to update the Integrated Circuit Data Book through the publication of Supplements. At least two supplements will be published during the year. The Supplements will contain complete data sheets for newly added Motorola devices.

To keep your Data Book as current and up-to-date as possible, subscribe to this updating service, using the subscription form below: Price, \$2.00

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MC670P MC671P MC672P MC700F MC700F MC700G MC700G MC701G MC702G MC703F MC703G MC703F MC703G MC704F MC704G MC704G MC706G MC706F MC706G MC706G MC706G MC707F MC7070F MC709G MC709F MC709G MC709F MC709G MC709F MC709G MC709F MC709G MC7011F MC7010G MC711F MC711G MC711F MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC71	Commercial mW MRTL	6-251
MC671P MC672P MC70F MC709F MC700F MC700F MC700G MC701G MC701G MC703G MC703F MC703G MC703F MC703G MC704F MC704G MC704G MC704G MC705F MC706G MC706F MC706F MC706F MC706F MC706F MC706F MC706F MC706F MC707F MC708F MC709F MC700F MC	Commercial mW MRTL	6-248
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MC700F MC701G MC701G MC701G MC701G MC701G MC701G MC701G MC703F MC703F MC703F MC704F MC704F MC704F MC704F MC704G MC704F MC704G MC704F MC704G MC705G MC705G MC705G MC705G MC705G MC705G MC705G MC707F MC703F MC707F MC703F MC707F MC703F MC707F MC703F M	Commercial MRTL	6-248
MC700G MC701G MC701G MC771F MC774G MC774G MC774G MC774G MC774G MC774G MC774G MC776F MC776F MC703G MC776F MC7776P MC7776P MC7776P MC7776P MC7776P MC77776P MC77776P MC77776P MC7776P MC7776P MC77776P MC77778P MC7776P MC77778P MC7776P MC77778P MC7776P MC77778P MC77778P MC7776P MC77778P MC7776P MC7778P MC778F MC78E MC78E MC78E MC78E MC78B MC78AP MC78AP MC788F MC788F MC788F MC788F	Commercial MRTL	6-252
MC701G MC702G MC703F MC703F MC703F MC704F MC704F MC704G MC706F MC706G MC706G MC706G MC707F MC7070G MC7070G MC7070G MC7070G MC708B MC708B MC708G MC709F MC709G MC709F MC709G MC7010G MC7010G MC7010G MC711F MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G MC711G	Plastic MRTL	6-182
MC702G 6-250 MC775F MC776F MC778F MC781G MC781G MC781G MC783F MC783F MC783P MC783P MC783P MC784F MC784P MC785F MC786F MC788P MC788P MC788P MC788P MC788P MC788P MC788P MC788P </td <td>Commercial MRTL</td> <td>6-250</td>	Commercial MRTL	6-250
MC703F 6-251 MC776P MC704F 6-248 MC776P MC704F 6-249 MC776P MC705F MC705F MC778P MC705G 6-256 MC779P MC706G 6-256 MC779P MC707F MC781G MC782G MC707F MC782G MC782G MC708F MC708F MC783P MC708F MC708F MC788F MC708F MC788F MC783P MC708G MC784F MC784P MC709F MC784P MC784P MC709F MC784P MC784P MC709F MC784P MC784P MC709F MC784P MC784P MC709F MC786P MC786P MC710F G-251 MC786P MC711F MC711F G-251 MC786P MC711F MC711F G-251 MC788P MC711G MC718F MC788P MC788P MC711G MC718F	Commercial MRTL	6-255
MC703G 6-248 MC776F MC704F MC776F MC776F MC705G G-256 MC778P MC706F G-256 MC778P MC706F G-256 MC778P MC706F G-250 MC782G MC707F MC707F MC782G MC707F MC707F MC783F MC707F MC782G MC783F MC707F MC782G MC783F MC707F MC782G MC783F MC707F MC782G MC783F MC707B G-251 MC783F MC708G MC784F MC784P MC709G G-249 MC784P MC709G G-249 MC784P MC710G MC786F MC786P MC711F MC786P MC786P MC711G MC788F MC788P MC711G MC788P MC788P MC711G MC788P MC788P MC711G MC788P MC789P MC711G MC790	Plastic MRTL	6-227
MC704F 6-255 MC776P MC704G 6-249 MC778F MC705G 6-256 MC778P MC706F 6-256 MC779P MC706F 6-256 MC781G MC707F MC707F MC783G MC707F MC783F MC783F MC708F MC708G MC783P MC708F MC784P MC784P MC709F 6-253 MC784F MC709G MC710F MC784P MC709G MC785P MC784P MC710F MC785P MC785P MC710G MC785P MC786F MC711F MC786P MC788P MC711G MC78F MC78F MC711F MC78P MC78P MC712G MC78F MC78P MC714F MC78P MC78P MC714F MC78P MC78P MC714F MC78P MC78P MC714F MC718F MC79P MC714F MC79P	Commercial mW MRTL	6-254
MC704G 6-249 MC778F MC705F 6-256 MC778P MC706F 6-250 MC781G MC706F 6-250 MC781G MC707F MC707F MC782G MC708F MC708F MC783F MC709F MC783P MC783P MC709F MC784P MC784P MC709F MC784P MC784P MC709F MC785P MC784P MC709G MC784P MC784P MC709F MC785P MC784P MC710F MC785P MC785P MC710F MC786P MC785P MC711F MC786P MC788P MC711G MC788P MC788P MC712G MC788P MC788P MC713G MC788P MC788P MC714G MC788P MC788P MC713F MC794B MC790F MC714F MC794B MC791P MC715F MC716F MC791P MC718F M	Plastic mW MRTL	6-190
MC705F 6-256 MC778P MC706F 6-250 MC778P MC706F 6-250 MC781G MC707F MC707F MC782G MC707F MC707F MC782G MC707F MC708F MC783F MC708F MC788F MC783P MC709F 6-253 MC784F MC709F 6-249 MC784F MC709F 6-249 MC784F MC709F 6-253 MC785F MC709G MC786F MC788P MC710F 6-249 MC786F MC711F MC786P MC786P MC711F MC786P MC788P MC711G 6-248 MC788P MC711F MC788P MC788P MC711G MC788P MC788P MC711G MC788P MC788P MC711F MC718F MC789P MC714G MC78P MC790P MC714G MC791F MC790P MC714F Commerc	Commercial mW MRTL	6-254
MC705G MC706F MC706G MC707F MC707G MC707G MC708G MC708G MC708G MC709F MC709G MC710F MC710G MC711F MC711G MC711G MC711G MC712G MC712G MC713F MC713G MC714G MC714G MC714G MC715F MC715G MC715F MC715G MC715F MC715G MC715F MC717P MC717P MC717P MC717P MC717P MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC719F MC719F MC718F MC718F MC719F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC719F MC718F MC718F MC718F MC718F MC719F MC718F MC719F MC719F MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC720G MC720G MC720G MC722G MC722G MC722G MC723F MC723F MC723F MC723F MC723F MC723F MC723F MC723F MC723F MC723F MC723F MC723F MC723F MC723F MC723F MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,	Plastic mW MRTL	6-193
MC706F MC706G MC707F MC707G MC708F MC708F MC708F MC709F MC709F MC710F MC710G MC711F MC711G MC712F MC712F MC713G MC713F MC714F MC714F MC714F MC714F MC715G MC715P MC715G MC715P MC715P MC715P MC716P MC717P MC717P MC717P MC717P MC718F MC718F MC718F MC718F MC718F MC719P MC718F MC718F MC718F MC719P MC718F MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC718P MC719P MC718P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC720F MC720F MC720F MC720F MC722F MC722F MC722F MC722P MC722P MC722P MC722P MC723F MC723F MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC306F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC806F,G MC800F,G MC800F,G MC800F,G MC806F,G MC800F,G MC800F,G	Plastic MRTL	6-221
MC706G MC707F MC782G MC783F MC707G MC707G MC783F MC783F MC783F MC708F Commercial mW MRTL 6-255 MC784P MC784P MC709G MC709G MC785F MC785F MC785P MC710F MC710F MC786P MC786P MC786P MC711F MC711F MC788P MC788P MC788P MC713F MC718F MC788P MC788P MC789P MC714F Commercial MRTL 6-251 MC790P MC790P MC714F Commercial MW MRTL 6-251 MC791P MC791P MC791P MC715F Plastic mW MRTL 6-251 MC793P MC792P MC718F Commercial mW MRTL 6-251 MC793P MC796P MC718F Comm	Commercial mW MRTL	6-249
MC707F MC707G MC708F MC708F MC708G MC709F MC709F MC710G MC710G MC711F MC711G MC711G MC711G MC712F MC713G MC713F MC713G MC714F MC714F MC714G MC715D MC715G MC715P MC715G MC715P MC717P MC717P MC717P MC717P MC717P MC717P MC717P MC718F MC718G MC718F MC718F MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719F MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC719P MC720F MC720F MC721F MC721F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722P MC722P MC722P MC722P MC722P MC722P MC722P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC723P MC724P Plastic MRTL G-250 MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G MC800F,G	Commercial mW MRTL	6-250
MC707G MC708F Commercial mW MRTL 6-248 MC784F MC708G MC709F MC784F MC784F MC709G 6-249 MC784F MC709G 6-249 MC785F MC710F 6-249 MC786F MC710G 6-248 MC786F MC711F 6-248 MC786F MC711G 6-248 MC787P MC712F 6-248 MC788F MC712F 6-248 MC788P MC712F 6-249 MC789P MC713F 6-255 MC789P MC713F 6-250 MC789P MC714F Commercial MRTL 6-251 MC790P MC714F Commercial MRTL 6-251 MC791F MC715F Plastic MRTL 6-251 MC791F MC715F Plastic mW MRTL 6-252 MC793F MC718F Commercial mW MRTL 6-251 MC793P MC718F Commercial mW MRTL 6-261 MC796P MC718F Com	Commercial MRTL	6-256
MC708F MC708G MC709G MC710F MC710F MC711F MC711G MC711F MC711G MC711F MC711G MC712F MC712G MC713F MC713G MC713F MC713G MC714G MC714G MC714G MC714G MC714G MC715F MC7116F MC715G MC715F MC715G MC717P MC717P MC717P MC717P MC717P MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC718F MC719P MC719P MC719P MC719P MC719P MC719P MC720F MC720F MC720F MC720F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC73F MC73F MC73F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC722F MC723F MC722F MC722F MC722P MC722P MC722P Plastic mW MRTL G-250 MC800F,G MC800F,G MC805F,G MC805F,G MC805F,G MC805F,G MC805F,G MC805F,G MC805F,G MC805F,G MC805F,G MC805F,G MC805F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC806F,G MC80	Plastic MRTL	6-237
MC708G 6-249 MC784P MC709F 6-253 MC785F MC709G 6-249 MC785F MC710F 6-249 MC786F MC711F 6-248 MC786P MC711F 6-248 MC787P MC711G 6-248 MC788F MC712F 6-249 MC788P MC712F 6-249 MC788P MC713F 6-250 MC788P MC713F 6-254 MC789P MC713F 6-250 MC790F MC714F Commercial MRTL 6-251 MC790P MC714G MC791F MC790P MC791P MC715F Plastic MRTL 6-251 MC791P MC715F Plastic MRTL 6-252 MC792P MC715F Plastic MW MRTL 6-252 MC793F MC717F Plastic mW MRTL 6-252 MC793F MC718F Commercial mW MRTL 6-248 MC796F MC718F Commercial mW MRTL 6-262 MC797F <td>Commercial MRTL</td> <td>6-256</td>	Commercial MRTL	6-256
MC709F 6-253 MC785F MC710F 6-249 MC785P MC710G 6-248 MC786F MC711F 6-251 MC787P MC711F 6-251 MC787P MC711G 6-255 MC788P MC712F 6-255 MC788P MC713G 6-250 MC799P MC714F Commercial MRTL 6-251 MC716G MC790P MC790P MC715F MC791F MC791F MC715F MC791F MC791F MC715P Plastic MRTL 6-251 MC791F MC717P Plastic mW MRTL 6-252 MC793F MC718F Commercial mW MRTL 6-251 MC793F MC718F Commercial mW MRTL 6-251 MC796F MC718P Plastic mW MRTL 6-251 MC796F MC719F Commercial mW MRTL 6-252 MC797P MC719P Commercial mW MRTL 6-252 MC797P MC720F G-253 MC799F	Plastic MRTL	6-235
MC709G 6-249 MC785P MC710F 6-251 MC786F MC711F 6-248 MC786P MC711F 6-249 MC787P MC711F 6-251 MC788P MC712F 6-255 MC788P MC712G 6-254 MC788P MC713G 6-254 MC789P MC714F Commercial MRTL 6-251 MC714G MC790F MC790P MC714G MC791F MC791P MC715F Plastic MRTL 6-251 MC791F MC791P MC791P MC717F Plastic MW MRTL 6-252 MC717P Plastic mW MRTL 6-252 MC718F Commercial mW MRTL 6-248 MC718F Commercial mW MRTL 6-250 MC718F Commercial mW MRTL 6-250 MC718F M	Commercial MRTL	6-253
MC710F 6-251 MC786F MC786P MC711F 6-251 MC786P MC787P MC711G 6-248 MC787P MC787P MC712F 6-248 MC788P MC788P MC712G 6-249 MC789P MC789P MC713G 6-250 MC790F MC790F MC714F Commercial MRTL 6-251 MC790P MC714G MC791F MC791F MC791P MC715F MC715F MC791P MC791P MC715F Plastic MRTL 6-248 MC791P MC717F Commercial mW MRTL 6-252 MC792P MC718F Commercial mW MRTL 6-251 MC793F MC718F Commercial mW MRTL 6-254 MC796P MC718F Commercial mW MRTL 6-254 MC796P MC718F Commercial mW MRTL 6-254 MC797F MC718F Commercial mW MRTL 6-254 MC798F MC718F Commercial mW MRTL 6-254 MC798F <	Plastic MRTL	6-215
MC710G 6-248 MC786P MC711F 6-251 MC787P MC712F 6-248 MC788F MC712G 6-249 MC789P MC713F 6-250 MC789P MC713G 6-250 MC790P MC714F Commercial MRTL 6-251 MC790P MC714G 6-251 MC791F MC791P MC715F MC791F MC791P MC791P MC715P Plastic MRTL 6-251 MC791P MC717F Commercial mW MRTL 6-251 MC792F MC718F Commercial mW MRTL 6-251 MC793P MC718F Commercial mW MRTL 6-251 MC796F MC718P Plastic mW MRTL 6-254 MC796P MC719F Commercial mW MRTL 6-254 MC797F MC719F Plastic mW MRTL 6-254 MC798P MC720F MC796F 6-253 MC798P MC721F MC720F MC800F,G MC722F MC800F,G MC80	Commercial MRTL	6-253
MC711F 6-251 MC787P MC712F 6-248 MC788F MC712G 6-255 MC788P MC713F 6-250 MC789P MC713F 6-250 MC790F MC714F Commercial MRTL 6-251 MC790P MC714G 6-251 MC790P MC791F MC715F 6-251 MC791P MC791P MC715G Plastic MRTL 6-251 MC791P MC715P Plastic MRTL 6-251 MC792P MC717P Plastic mW MRTL 6-251 MC793P MC718F Commercial mW MRTL 6-251 MC793P MC718F Commercial mW MRTL 6-251 MC796F MC718P Plastic mW MRTL 6-254 MC796P MC719F Commercial mW MRTL 6-252 MC797P MC719F Commercial mW MRTL 6-254 MC798P MC720F Plastic mW MRTL 6-254 MC799F MC721F MC722F MC801G MC801G	Plastic MRTL	6-213
MC711G 6-248 MC788F MC712F 6-255 MC788P MC713G MC789F MC789F MC713G MC790F MC790P MC714F Commercial MRTL 6-251 MC790P MC714G MC791F MC791F MC791P MC715F MC791F MC791P MC791P MC715P Plastic MRTL 6-251 MC792P MC717P Plastic mW MRTL 6-252 MC793P MC718F Commercial mW MRTL 6-251 MC793P MC718F Commercial mW MRTL 6-251 MC793P MC718P Plastic mW MRTL 6-264 MC796P MC719F Commercial mW MRTL 6-264 MC797P MC719F Commercial mW MRTL 6-254 MC798P MC720F MC79F MC79P MC79P MC720F G-253 MC799F MC79P MC721F G-254 MC800F, G MC722F G-254 MC801G MC722F G-254<	Plastic MRTL	6-224
MC712F 6-255 MC788P MC713F 6-249 MC789F MC713F 6-254 MC789P MC713G MC790F MC790F MC714F Commercial MRTL 6-251 MC790P MC714G MC791F MC791F MC791P MC715F MC791P MC792P MC792P MC715F Plastic MRTL 6-251 MC792P MC717F Commercial mW MRTL 6-252 MC793F MC717P Plastic mW MRTL 6-251 MC793P MC718F Commercial mW MRTL 6-251 MC793P MC718F Commercial mW MRTL 6-251 MC796F MC718P Plastic mW MRTL 6-168 MC797P MC719P Plastic mW MRTL 6-254 MC798F MC720F Commercial mW MRTL 6-254 MC798P MC721F 6-254 MC799P MC799P MC721F 6-254 MC800F,G MC801G MC722F Plastic mW MRTL 6-254 MC806F	Commercial MRTL	6-253
MC712G 6-249 MC789F MC713F 6-250 MC789P MC713G MC790F MC790F MC714F Commercial MRTL 6-251 MC790P MC790P MC714G MC791F MC715F MC791F MC715G MC791F MC715F MC792P MC717F Commercial mW MRTL 6-252 MC717P Plastic mW MRTL 6-252 MC718F Commercial mW MRTL 6-251 MC793P MC793P MC718F Commercial mW MRTL 6-251 MC796F MC796F MC718P Plastic mW MRTL 6-166 MC791P Plastic mW MRTL 6-251 MC797P MC797P MC798F MC798F MC798F MC798F MC799F MC798P MC799F MC798P MC720F Commercial mW MRTL 6-254 MC798P MC799F MC721F MC800F,G MC722F </td <td>Plastic MRTL</td> <td>6-188</td>	Plastic MRTL	6-188
MC713F 6-254 MC789P MC713G 6-250 MC790F MC714F Commercial MRTL 6-251 MC790P MC714G MC791F MC791F MC715F MC791F MC791P MC715G MC791P MC792P MC715F Plastic MRTL 6-251 MC792P MC717F Commercial mW MRTL 6-252 MC793F MC717P Plastic mW MRTL 6-251 MC793P MC718F Commercial mW MRTL 6-251 MC796F MC718G Commercial mW MRTL 6-251 MC796F MC718P Plastic mW MRTL 6-254 MC797F MC719P Plastic mW MRTL 6-254 MC798F MC720F Commercial mW MRTL 6-254 MC798P MC721F 6-254 MC799F MC799P MC721F 6-254 MC800F,G MC722F Plastic mW MRTL 6-254 MC803F,G MC723F Commercial MRTL 6-250 MC803F,G <t< td=""><td>Commercial MRTL</td><td>6-252</td></t<>	Commercial MRTL	6-252
MC713G Commercial MRTL 6-250 MC790F MC714F MC791F MC791F MC791F MC715F MC715F MC791P MC791P MC715P Plastic MRTL 6-251 MC792P MC717F Commercial mW MRTL 6-252 MC793F MC717P Plastic mW MRTL 6-251 MC793P MC718F Commercial mW MRTL 6-251 MC793P MC718G Commercial mW MRTL 6-251 MC796F MC718P Plastic mW MRTL 6-254 MC796P MC719F Commercial mW MRTL 6-250 MC797F MC719P Plastic mW MRTL 6-254 MC798P MC720F Commercial mW MRTL 6-254 MC798P MC721F 6-254 MC799F MC799F MC721F 6-254 MC800F,G MC801G MC722F Plastic mW MRTL 6-254 MC803F,G MC723F Commercial MRTL 6-250 MC803F,G MC723F Plastic MRTL 6-250	Plastic MRTL	6-211
MC714F Commercial MRTL 6-251 MC790P MC714G 6-248 MC791F MC715F MC791P MC791P MC715G Plastic MRTL 6-248 MC791P MC792P MC715P Plastic MRTL 6-252 MC717P Commercial mW MRTL 6-252 MC718F Commercial mW MRTL 6-251 MC718G Commercial mW MRTL 6-251 MC718P Plastic mW MRTL 6-264 MC796P MC796P MC719F Commercial mW MRTL 6-252 MC797F MC796P MC797P MC797P MC719F Plastic mW MRTL 6-168 MC797P MC798P MC798P MC798P MC790G MC798P MC721F 6-253 MC799F MC799F MC721F 6-254 MC799F MC799P MC721G MC799F MC722F MC800F,G MC723F Commercial MRTL	Commercial MRTL	6-254
MC714G 6-248 MC791F MC715F 6-251 MC791P MC715G Plastic MRTL 6-248 MC792F MC715P MC792F MC792P MC792P MC717F Commercial mW MRTL 6-252 MC793P MC718F Commercial mW MRTL 6-251 MC796F MC718G Commercial mW MRTL 6-248 MC796P MC718P Plastic mW MRTL 6-166 MC797F MC719F Commercial mW MRTL 6-252 MC797P MC719F Plastic mW MRTL 6-254 MC798F MC720F Commercial mW MRTL 6-254 MC798P MC720F MC799F MC799F MC799F MC721F 6-253 MC799F MC799F MC721F 6-254 MC800F,G MC722F MC800F,G MC801G MC722F Plastic mW MRTL 6-254 MC802G MC723F Commercial MRTL 6-250 MC804F,G MC723F Plastic MRTL 6-250	Plastic MRTL	6-208
MC715F MC791P MC715G Plastic MRTL 6-248 MC792F MC792F MC717F Commercial mW MRTL 6-252 MC717P Plastic mW MRTL 6-252 MC793F MC793P MC796F MC796F MC718F Commercial mW MRTL 6-251 MC796F MC796P MC718P Plastic mW MRTL 6-166 MC791F Commercial mW MRTL 6-252 MC797F MC797P MC719F Plastic mW MRTL 6-254 MC798F MC798F MC798F MC798F MC799F MC798F MC799F MC798F MC799F MC799F MC799F MC799F MC791F MC799F MC792F MC799F MC792F MC800F,G MC792F MC801G MC792F MC801G MC792F MC802G MC723F Commercial MRTL 6-250 MC723F	Commercial MRTL	6-254
MC715G Plastic MRTL 6-248 MC792F MC717F Commercial mW MRTL 6-174 MC792P MC717F Commercial mW MRTL 6-252 MC793F MC717P Plastic mW MRTL 6-251 MC793P MC718F Commercial mW MRTL 6-251 MC796F MC718G Commercial mW MRTL 6-248 MC796F MC718P Plastic mW MRTL 6-266 MC796P MC719F Commercial mW MRTL 6-252 MC797P MC719P Plastic mW MRTL 6-254 MC798F MC720F Commercial mW MRTL 6-254 MC798P MC721F MC799F MC799F MC799F MC721F MC792F MC800F,G MC809F,G MC722F Plastic mW MRTL 6-254 MC800F,G MC722F Plastic mW MRTL 6-254 MC803F,G MC723F Commercial MRTL 6-254 MC804F,G MC723F Plastic MRTL 6-250 MC805F,G MC723F Commercial MRTL	Plastic MRTL	6-199
MC715P Plastic MRTL 6-174 MC792P MC717F Commercial mW MRTL 6-252 MC793F MC717P Plastic mW MRTL 6-172 MC793P MC718F Commercial mW MRTL 6-251 MC796F MC718P Plastic mW MRTL 6-248 MC796P MC718P Plastic mW MRTL 6-166 MC797F MC719F Commercial mW MRTL 6-168 MC797P MC719P Plastic mW MRTL 6-254 MC798F MC720F Commercial mW MRTL 6-254 MC798P MC721F 6-253 MC799F MC721F 6-254 MC799F MC721G MC800F,G MC799P MC722F MC800F,G MC801G MC722F Plastic mW MRTL 6-250 MC723F Commercial MRTL 6-250 MC723F Commercial MRTL 6-250 MC723G Commercial MRTL 6-250 MC723F Plastic MRTL 6-250 MC804F,G MC805F,G	Commercial MRTL	6-252
MC717F Commercial mW MRTL 6-252 MC793F MC718F Commercial mW MRTL 6-172 MC793P MC718F Commercial mW MRTL 6-251 MC796F MC718F Commercial mW MRTL 6-251 MC796P MC718P Plastic mW MRTL 6-166 MC797F MC719F Commercial mW MRTL 6-252 MC797P MC719P Plastic mW MRTL 6-254 MC798F MC720F Commercial mW MRTL 6-254 MC798P MC721F 6-253 MC799F MC799F MC721G 6-254 MC799F MC799F MC721G 6-254 MC799F MC800F,G MC722F Flastic mW MRTL 6-254 MC800F,G MC722F Plastic mW MRTL 6-254 MC802G MC723F Commercial MRTL 6-254 MC803F,G MC723F Commercial MRTL 6-250 MC804F,G MC723P Plastic MRTL 6-252 MC806F,G MC724F Commercial MRTL	Plastic MRTL	6-178
MC717P Plastic mW MRTL 6-172 MC793P MC718F Commercial mW MRTL 6-251 MC796F MC718G Commercial mW MRTL 6-248 MC796P MC718P Plastic mW MRTL 6-166 MC797F MC719F Commercial mW MRTL 6-252 MC797P MC719P Plastic mW MRTL 6-254 MC798P MC720F Commercial mW MRTL 6-254 MC798P MC721F 6-253 MC799F MC799F MC721G 6-254 MC799P MC799P MC722F 6-254 MC800F,G MC801G MC722P Plastic mW MRTL 6-196 MC802G MC723F Commercial MRTL 6-250 MC803F,G MC723F Plastic MRTL 6-250 MC804F,G MC724F Plastic MRTL 6-252 MC806F,G MC724F Plastic MRTL 6-252 MC806F,G MC724P Plastic MRTL 6-252 MC806F,G	Commercial mW MRTL	6-252
MC718G Commercial mW MRTL 6-248 MC796P MC718P Plastic mW MRTL 6-166 MC797F MC719F Commercial mW MRTL 6-252 MC797P MC719P Plastic mW MRTL 6-168 MC798F MC720F Commercial mW MRTL 6-254 MC798P MC720G MC799G MC799G MC721F 6-253 MC799G MC721G 6-254 MC799P MC722F 6-254 MC800F,G MC792P Plastic mW MRTL 6-196 MC802G MC723F Commercial MRTL 6-250 MC803F,G MC723G Commercial MRTL 6-250 MC804F,G MC723P Plastic MRTL 6-262 MC804F,G MC724F Commercial MRTL 6-252 MC806F,G MC724P Plastic MRTL 6-180 MC807F,G	Plastic mW MRTL	6-170
MC718G Commercial mW MRTL 6-248 MC796P MC718P Plastic mW MRTL 6-166 MC797F MC719F Commercial mW MRTL 6-252 MC797P MC719P Plastic mW MRTL 6-168 MC798P MC720F Commercial mW MRTL 6-254 MC798P MC720G MC799G MC799G MC721F 6-253 MC799G MC721G 6-254 MC799P MC722F 6-254 MC800F,G MC722P Plastic mW MRTL 6-196 MC802G MC723F Commercial MRTL 6-250 MC803F,G MC723G Commercial MRTL 6-250 MC804F,G MC723P Plastic MRTL 6-262 MC806F,G MC724F Commercial MRTL 6-252 MC806F,G MC724P Plastic MRTL 6-180 MC807F,G	Commercial MRTL	6-255
MC719F Commercial mW MRTL 6-252 MC797P MC719P Plastic mW MRTL 6-168 MC798F MC720F Commercial mW MRTL 6-254 MC798P MC720G MC791F MC799F MC799F MC721F MC799G MC799P MC799P MC722F MC800F,G MC800F,G MC722P Plastic mW MRTL 6-254 MC802G MC723F Commercial MRTL 6-254 MC803F,G MC723G Commercial MRTL 6-250 MC804F,G MC723P Plastic MRTL 6-202 MC805F,G MC724F Commercial MRTL 6-252 MC806F,G MC724P Plastic MRTL 6-252 MC807F,G	Plastic MRTL	6-229
MC719P Plastic mW MRTL 6-168 MC798F MC720F Commercial mW MRTL 6-254 MC798P MC721G 6-253 MC799F MC799F MC721G 6-254 MC799P MC799P MC722F 6-254 MC800F,G MC800F,G MC722P Plastic mW MRTL 6-250 MC801G MC723F Commercial MRTL 6-254 MC803F,G MC723G Commercial MRTL 6-250 MC804F,G MC723P Plastic MRTL 6-202 MC805F,G MC724F Commercial MRTL 6-252 MC806F,G MC724P Plastic MRTL 6-180 MC807F,G	Commercial MRTL	6-255
MC719P Plastic mW MRTL 6-168 MC798F MC720F Commercial mW MRTL 6-254 MC798P MC721G 6-250 MC799F MC799F MC721G 6-249 MC799P MC799P MC722F 6-254 MC800F,G MC800F,G MC722P Plastic mW MRTL 6-250 MC801G MC723F Commercial MRTL 6-254 MC803F,G MC723G Commercial MRTL 6-250 MC804F,G MC723P Plastic MRTL 6-202 MC805F,G MC724F Commercial MRTL 6-252 MC806F,G MC724P Plastic MRTL 6-180 MC807F,G	Plastic MRTL	6-232
MC720F Commercial mW MRTL 6-254 MC798P MC721F 6-253 MC799F MC721G 6-253 MC799G MC792F 6-254 MC799P MC792G MC800F,G MC722P Plastic mW MRTL 6-250 MC723F Commercial MRTL 6-254 MC7023G Commercial MRTL 6-254 MC7023P Plastic MRTL 6-250 MC724F Commercial MRTL 6-202 MC724F Commercial MRTL 6-252 MC724P Plastic MRTL 6-252 MC80F,G MC80F,G MC80F,G MC80F,G MC80F,G MC80F,G	Commercial mW MRTL	6-253
MC720G 6-250 MC799F MC721F 6-253 MC799G MC721G 6-249 MC799P MC792F 6-254 MC800F,G MC722G 6-250 MC801G MC723F Commercial MRTL 6-254 MC723G Commercial MRTL 6-254 MC723P Plastic MRTL 6-250 MC723P Plastic MRTL 6-202 MC724F Commercial MRTL 6-252 MC724P Plastic MRTL 6-252 MC80F,G MC80F,G MC80F,G MC80F,G MC80F,G MC80F,G	Plastic mW MRTL	6-184
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INTERCHANGEABILITY GUIDE

The following cross-reference lists integrated circuits from a number of major manufacturers, and indicates the direct replacement type. Due to the variety of packages on the market, there may be slight differences in outline dimensions.

DIGITAL INTEGRATED CIRCUITS

MECL

Part Number	Motorola Direct Replacement	Description
RCA		
CD2150F	MC1050F	Dual 4-Input OR/NOR Gate
CD2151F	MC1051F	Dual 4-I nput OR/NOR Gate
CD2152F	MC1052F	Single 8-Input OR/NOR Gate
Stewart- Warner		
SW301F	MC301F	5-Input OR/NOR Gate
SW301T	MC301G	5-Input OR/NOR Gate
SW302F	MC302F	R-S Flip-Flop
SW302T	MC302G	R-S Flip-Flop
SW303F	MC303F	Half Adder
SW303T	MC303G	Half Adder
SW304F	MC304F	Bias Driver
SW304T	MC304G	Bias Driver
SW305F	MC305F	5-Input Gate Expander
SW305T	MC305G	5-Input Gate Expander
SW306F SW306T	MC306F MC306G	3-Input OR/NOR Gate
SW307F	MC307F	3-Input OR/NOR Gate 3-Input OR/NOR Gate
SW307T	MC307G	3-Input OR/NOR Gate
SW308F	MC308F	AC-Coupled J-K
SW308T	MC308G	AC-Coupled J-K
SW309F	MC309F	Dual 2-I nput NOR Gate
SW309T	MC309G	Dual 2-Input NOR Gate
SW310F	MC310F	Dual 2-Input NOR Gate
SW310T	MC310G	Dual 2-Input NOR Gate
SW311F	MC311F	Dual 2-Input NOR Gate
SW311T	MC311G	Dual 2-Input NOR Gate
SW351F	MC351F	5-Input OR/NOR Gate
SW351T	MC351G	5-Input OR/NOR Gate
SW352AF	MC352AF	R-S Flip-Flop
SW352AT	MC352AG	R-S Flip-Flop
SW353F	MC353F	Half Adder
SW353T SW354F	MC353G	Half Adder
SW354F SW354T	MC354F MC354G	Bias Driver Bias Driver
SW355F	MC355F	5-Input Gate Expander
SW355T	MC355G	5-Input Gate Expander
SW356F	MC356F	3-Input OR/NOR Gate
SW356T	MC356G	3-I nput OR/NOR Gate
SW357F	MC357F	3-Input OR/NOR Gate
SW357T	MC357G	3-Input OR/NOR Gate
SW358AF	MC358AF	AC-Coupled J-K Flip-Flop
SW358AT	MC358AG	AC-Coupled J-K Flip-Flop

Part Number	Motorola Direct Replacement	Description
SW359F SW359T SW360F SW360T SW361F SW361T	MC359F MC359G MC360F MC360G MC361F MC361G	Dual 2-I nput NOR Gate
Westing- house		
WC377	MC1023P*	Dual 4-Input OR/NOR Clock Driver

^{*} Not pin-for-pin replacement

MTTL

Sylvania		
SF-10-02	MC513F	R-S Flip-Flop
SF-11-02	MC563F	R-S Flip-Flop
SF-12-02	MC413F	R-S Flip-Flop
SF-13-02	MC463F	R-S Flip-Flop
SF-50-02	MC515F	AND J-K Flip-Flop
SF-51-02	MC565F	AND J-K Flip-Flop
SF-52-02	MC415F	AND J-K Flip-Flop
SF-52-P	MC415P	AND J-K Flip-Flop
SF-53-02	MC465F	AND J-K Flip-Flop
SF-53-P	MC465P	AND J-K Flip-Flop
SF-60-02	MC516F	OR J-K Flip-Flop
SF-61-02	MC566F	OR J-K Flip-Flop
SF-62-02	MC416F	OR J-K Flip-Flop
SF-62-P	MC416P	OR J-K Flip-Flop
SF-63-02	MC466F	OR J-K Flip-Flop
SF-63-P	MC466P	OR J-K Flip-Flop
SG-40-02	MC500F	Dual 4-Input NAND Gate
SG-41-02	MC550F	Dual 4-I nput NAND Gate
SG-42-02	MC400F	Dual 4-Input NAND Gate
SG-42-P	MC400P	Dual 4-Input NAND Gate
SG-43-02	MC450F	Dual 4-Input NAND Gate
SG-43-P	MC450P	Dual 4-Input NAND Gate
SG-50-02	MC501F	Expandable 4-Wide
		2-2-2-3 Input
		AND-OR-INVERT Gate
SG-51-02	MC551F	Expandable 4-Wide
		2-2-2-3 Input
		AND-OR-INVERT Gate
SG-52-02	MC401F	Expandable 4-Wide
	1	2-2-2-3 Input
		AND-OR-INVERT Gate
SG-52-P	MC401P	Expandable 4-Wide
·	1	2-2-2-3 I nput
		AND-OR-INVERT Gate
	<u> </u>	1 : = = :::::=::: 2000

MTTL (cont.)

Part Number	Motorola Direct	Description		
MUNINGI	Replacement			
SG-53-02	MC451F	Expandable 4-Wide		
		2-2-2-3 Input AND-OR-INVERT Gate		
SG-53-P	MC451P	Expandable 4-Wide		
00-30-1	10.0-311	2-2-2-3 Input		
		AND-OR-INVERT Gate		
SG-60-02	MC502F	Single 8-Input NAND		
	1	Gate		
SG-61-02	MC552F	Single 8-Input NAND		
SG-62-02	MC402F	Gate Single 8-Input NAND		
30-62-02	WC402F	Gate		
SG-62-P	MC402P	Single 8-Input NAND		
		Gate		
SG-63-02	MC452F	Single 8-Input NAND		
SG-63-P	MC452P	Gate Single 8-Input NAND		
30-03-1	WC452F	Gate		
SG-70-02	MC520F	Dual Expandable		
00.002		2-Wide, 2-Input		
		AND-OR-INVERT Gate		
SG-71-02	MC570F	Dual Expandable		
		2-Wide, 2-Input		
SG-72-02	MC420F	AND-OR-INVERT Gate Dual Expandable		
30-72-02	WC420F	2-Wide, 2-Input		
		AND-OR-INVERT Gate		
SG-72-P	MC420P	Dual Expandable		
		2-Wide, 2-Input		
SG-73-02	MC470E	AND-OR-INVERT Gate		
30-73-02	MC470F	Dual Expandable 2-Wide, 2-Input		
		AND-OR-INVERT Gate		
SG-73-P	MC470P	Dual Expandable		
		2-Wide, 2-Input		
00 00 00	MC503F	AND-OR-INVERT Gate		
SG-90-02	MCSUSF	2-Wide 3-Input AND-OR-INVERT Gate		
		with Gated Complement		
SG-91-02	MC553F	2-Wide 3-Input		
		AND-OR-INVERT Gate		
SG-92-02	MC403F	with Gated Complement 2-Wide 3-Input		
30-32-02	1010-1031	AND-OR-INVERT Gate		
		with Gated Complement		
SG-93-02	MC453F	2-Wide 3-Input		
		AND-OR-INVERT Gate		
SG-100-02	MC504F	with Gated Complement Expandable 3-Wide		
00 100-02	111000 11	3-Input		
	į	AND-OR-INVERT Gate		
SG-101-02	MC554F	Expandable 3-Wide		
		3-Input AND-OR-INVERT Gate		
SG-102-02	MC404F	Expandable 3-Wide		
		3-Input		
		AND-OR-INVERT Gate		
SG-102-P	MC404P	Expandable 3-Wide		
		3-Input AND-OR-INVERT Gate		
SG-103-02	MC454F	Expandable 3-Wide		
55 155 52		3-Input		
		AND-OR-INVERT Gate		
SG-103-P	MC454P	Expandable 3-Wide		
		3-Input		
		AND-OR-INVERT Gate		
SG-110-02	MC505F	Expandable 2-Wide		
		4-Input		
CC-111 CC	MOSSES	AND-OR-INVERT Gate		
SG-111-02	MC555F	Expandable 2-Wide 4-Input		

Part Number	Motorola Direct Replacement	Description
SG-112-02	MC405F	Expandable 2-Wide 4-Input
SG-112-P	MC405P	AND-OR-INVERT Gate Expandable 2-Wide 4-Input
SG-113-02	MC455F	AND-OR-INVERT Gate Expandable 2-Wide 4-Input
SG-113-P	MC455P	AND-OR-INVERT Gate Expandable 2-Wide 4-Input
SG-120-02	MC506F	AND-OR-INVERT Gate Expandable 8-Input NAND Gate
SG-121-02	MC556F	Expandable 8-Input NAND Gate
SG-122-02	MC406F	Expandable 8-Input NAND Gate
SG-123-02	MC456F	Expandable 8-I nput NAND Gate
SG-130-02	MC507F	Dual 4-Input Line Driver
SG-131-02	MC557F	Dual 4-Input Line Driver
SG-132-02	MC407F	Dual 4-Input Line Driver
SG-132-P	MC407P	Dual 4-Input Line Driver
SG-133-02	MC457F	Dual 4-Input Line
SG-133-P	MC457P	Driver Dual 4-Input Line
SG-140-02	MC508F	Driver Ouad 2-Input NAND Gate
SG-141-02	MC558F	Quad 2-Input NAND Gate
SG-142-02	MC408F	Quad 2-Input NAND Gate
SG-142-P	MC408P	Ouad 2-Input NAND Gate
SG-143-02	MC458F	Ouad 2-Input NAND Gate
SG-143-P	MC458P	Ouad 2-Input NAND Gate
SG-150-02	MC509F	4-Wide 3-2-2-3 Input Expander for AND-
SG-151-02	MC559F	OR-INVERT Gates 4-Wide 3-2-2-3 Input Expander for AND-
SG-152-02	MC409F	OR-INVERT Gates 4-Wide 3-2-2-3 I nput Expander for AND-
SG-152-P	MC409P	OR-INVERT Gates 4-Wide 3-2-2-3 Input Expander for AND-
SG-153-02	MC459F	OR-INVERT Gates 4-Wide 3-2-2-3 Input Expander for AND-
SG-153-P	MC459P	OR-INVERT Gates 4-Wide 3-2-2-3 Input Expander for AND- OR-INVERT Gates
SG-170-02	MC510F	Dual 4-Input Expander for AND-OR-INVERT
SG-171-02	MC560F	Gates Dual 4-Input Expander for AND-OR-INVERT Gates
SG-172-02	MC410F	Dual 4-Input Expander for AND-OR-INVERT Gates

MTTL (cont.)

	Part Number	Motorola Birect Replacement	Bescription .
	SG-172-P	MC410P	Dual 4-Input Expander for AND-OR-INVERT Gates
	SG-173-02	MC460F	Dual 4-Input Expander for AND-OR-INVERT Gates
	SG-173-P	MC460P	Dual 4-Input Expander for AND-OR-INVERT Gates
	SG-180-02	MC511F -	Dual 4-Input Expander for NAND Gates
١	SG-181-02	MC561F	Dual 4-Input Expander for NAND Gates
	SG-182-02	MC411F	Dual 4-Input Expander for NAND Gates
	SG-183-02	MC461F	Dual 4-Input Expander for NAND Gates
	SG-190-02	MC512F	Triple 3-Input NAND Gate
	SG-191-02	MC562F	Triple 3-Input NAND Gate
	SG-192-02	MC412F	Triple 3-Input NAND Gate
	SG-192-P	MC412P	Triple 3-Input NAND Gate
	SG-193-02	MC462F	Triple 3-Input NAND Gate
	SG-193-P	MC462P	Triple 3-Input NAND Gate
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MTTL II

	Sylvania		
-	SF-250-02	MC2109F	AND J-K Flip-Flop
Į	SF-251-02	MC2159F	AND J-K Flip-Flop
ı	SF-252-02	MC2009F	AND J-K Flip-Flop
١	SF-253-02	MC2059F	AND J-K Flip-Flop
ĺ	SF-260-02	MC2110F	OR J-K Flip-Flop
١	SF-261-02	MC2160F	OR J-K Flip-Flop
١	SF-262-02	MC2010F	OR J-K Flip-Flop
١	SF-263-02	MC2060F	OR J-K Flip-Flop
١	SG-210-02	MC2100F	Expandable 2-Wide
١			4-Input AND-OR
ı			INVERT Gate
1	SG-211-02	MC2150F	Expandable 2-Wide
ı			4-Input AND-OR
١			INVERT Gate
١	SG-212-02	MC2000F	Expandable 2-Wide
١			4-Input AND-OR
1			INVERT Gate
1	SG-212-P	MC2000P	Expandable 2-Wide
1			4-Input AND-OR
١			INVERT Gate
١	SG-213-02	MC2050F	Expandable 2-Wide
1			4-Input AND-OR
1			INVERT Gate
١	SG-213-P	MC2050P	Expandable 2-Wide
1			4-Input AND-OR
-			INVERT Gate
	SG-220-02	MC2101F	Quad 2-Input NAND
	00 004 00	MC2151F	Gate Quad 2-Input NAND
ł	SG-221-02	MCZISIF	1
	SG-222-02	MC2001F	Gate Quad 2-Input NAND
	5G-222 - 02	WICZUUTF	Gate
	SG-222-P	MC2001P	Quad 2-Input NAND
	3U-222-F	IVICZUU IP	Gate
	SG-223-02	MC2051F	Quad 2-Input NAND
	30-223-02	WO20311	Gate
	CC 222 B	MC2051P	Quad 2-Input NAND
	SG-223-P	IVICZUS IP	
i			Gate

Part Number	Motorola Direct Replacement	Description	
00 000 00		4100-1-2222	
SG-230-02	MC2102F	4-Wide 3-2-2-3 Input Expander for AND- OR-INVERT Gates	
SG-231-02	MC2152F	4-Wide 3-2-2-3 Input Expander for AND-	
SG-232-02	MC2002F	OR-INVERT Gates 4-Wide 3-2-2-3 Input Expander for AND-	
SG-232-P	MC2002P	OR-INVERT Gates 4-Wide 3-2-2-3 Input	
SG-233-02	MC2052F	Expander for AND- OR-INVERT Gates 4-Wide 3-2-2-3 Input	
SG-233-P	MC2052P	Expander for AND- OR-INVERT Gates 4-Wide 3-2-2-3 Input	
		Expander for AND- OR-INVERT Gates	
SG-240-02	MC2103F	Dual 4-Input NAND Gate	
SG-241-02	MC2153F	Dual 4-Input NAND Gate	
SG-242-02	MC2003F	Dual 4-Input NAND Gate	
SG-242-P	MC2003P	Dual 4-Input NAND Gate	
SG-243-02	MC2053F	Dual 4-Input NAND Gate	
SG-243-P	MC2053P	Dual 4-Input NAND Gate	
SG-250-02	MC2104F	Expandable 4-Wide 2-2-2-3 Input AND-OR-INVERT Gate	
SG-251-02	MC2154F	Expandable 4-Wide 2-2-2-3 Input	
SG-252-02	MC2004F	AND-OR-INVERT Gate Expandable 4-Wide 2-2-2-3 Input	
SG-252-P	MC2004P	AND-OR-INVERT Gate Expandable 4-Wide 2-2-2-3 Input	
SG-253-02	MC2054F	AND-OR-INVERT Gate Expandable 4-Wide 2-2-2-3 Input	
SG-253-P	MC2054P	AND-OR-INVERT Gate Expandable 4-Wide 2-2-2-3 Input	
SG-260-02	MC2105F	AND-OR-INVERT Gate Single 8-Input NAND	
SG-261-02	MC2155F	Gate Single 8-Input NAND Gate	
SG-262-02	MC2005F	Single 8-I nput NAND Gate	
SG-262-P	MC2005P	Single 8-Input NAND	
SG-263-02	MC2055F	Single 8-I nput NAND	
SG-263-P	MC2055P	Single 8-Input NAND Gate	
SG-270-02	MC2106F	Dual 4-Input Expander for AND-OR-	
SG-271-02	MC2156F	INVERT Gates Dual 4-Input Expander for AND-OR-	
SG-272-02	MC2006F	INVERT Gates Dual 4-Input Expander for AND-OR- INVERT Gates	
SG-272-P	MC2006P	Dual 4-Input Expander for AND-OR- INVERT Gates	
	L.,		

MTTL II (cont.)

Part Number	Motorola Direct Replacement	Description
SG-273-02	MC2056F	Dual 4-Input Expander for AND-OR- INVERT Gates
SG-273-P	MC2056P	Dual 4-Input Expander for AND-OR- INVERT Gates
SG-310-02	MC2113F	Dual Expandable 2-Wide, 2-Input AND-OR-INVERT Gate
SG-311-02	MC2163F	Dual Expandable 2-Wide, 2-Input AND-OR-INVERT Gate
SG-312-02	MC2013F	Dual Expandable 2-Wide, 2-Input AND-OR-INVERT Gate
SG-312-P	MC2013P	Dual Expandable 2-Wide, 2-Input AND-OR-INVERT Gate
SG-313-02	MC2063F	Dual Expandable 2-Wide, 2-Input AND-OR-INVERT Gate
SG-313-P	MC2063P	Dual Expandable 2-Wide, 2-Input AND-OR-INVERT Gate

MDTL

Fairchild		
U3I909351X	MC953F	Dual J-K Flip-Flop
U3I909359X	MC853F	Dual J-K Flip-Flop
U3I909451X	MC956F	Dual J-K Flip-Flop
U3I909459X	MC856F	Dual J-K Flip-Flop
U3I909751X	MC955F	Dual J-K Flip-Flop
U3I909759X	MC855F	Dual J-K Flip-Flop
U3I909951X	MC952F	Dual J-K Flip-Flop
U31909959X	MC852F	Dual J-K Flip-Flop
U3I993051X	MC930F	Dual 4-Input NAND Gate
U31993059X	MC830F	Dual 4-Input NAND Gate
U3I993151X	MC931F	Clocked Flip-Flop
U3I993159X	MC831F	Clocked Flip-Flop
U3I993251X	MC932F	Dual 4-Input Buffer
U3I993259X	MC832F	Dual 4-Input Buffer
U3I993351X	MC933F	Dual 4-Input Expander
U31993359X	MC833F	Dual 4-Input Expander
U3I993651X	MC936F	Hex Inverter
U3I993659X	MC836F	Hex Inverter
U3I993751X	MC937F	Hex Inverter
U3I993759X	MC837F	Hex Inverter
U3I994451X	MC944F	Dual 4-Input Power
	1 <u>.</u>	NAND Gate
U31994459X	MC844F	Dual 4-Input Power NAND Gate
U3I994551X	MC945F	Clocked Flip-Flop
U3I994559X	MC845F	Clocked Flip-Flop
U3I994651X	MC946F	Quad 2-Input NAND Gate
U31994659X	MC846F	Quad 2-Input NAND Gate
U3I994851X	MC948F	Clocked Flip-Flop
U3I994859X	MC848F	Clocked Flip-Flop
U3I994951X	MC949F	Quad 2-Input NAND
		Gate with 2 k Pullup Resistor
U31994959X	MC849F	Quad 2-Input NAND Gate with 2 k Pullup Resistor
U3I995051X	MC950F	Pulse Triggered Binary
U31995059X	MC850F	Pulse Triggered Binary
U31995151X	MC951F	Monostable Multivibrator
30.000.01/	1	

	M-A.	
Part Number	Motorola Direct Replacement	Description
U3I995159X	MC851F	Monostable Multivibrator
U3I996151X	MC961 F	Dual 4-Input NAND Gate with 2 k
U3I996159X	MC861F	Pullup Resistor Dual 4-Input NAND
		Gate with 2 k Pullup Resistor
U3I996251X	MC962F	Triple 3-Input NAND Gate
U31996259X	MC862F	Triple 3-Input NAND Gate
U3I996351X	MC963F	Triple 3-Input NAND Gate with 2 k Pullup Resistor
U31996359X	MC863F	Triple 3-Input NAND Gate with 2k
U5F993051X	MC930G	Pullup Resistor Dual 3-2 Input NAND Gate
U5F993059X	MC830G	Dual 3-2 Input NAND Gate
U5F993151X	MC931G	Clocked Flip-Flop
U5F993159X	MC831G	Clocked Flip-Flop
U5F993251X	MC932G	Dual 3-2 Input Buffer
U5F993259X	MC832G	Dual 3-2 Input Buffer
U5F993351X	MC933G	Dual 4-3 Input Expander
U5F993359X	MC833G	Dual 4-3 Input Expander
U5F994451X	MC944G	Dual 3-2 Input Power NAND Gate
U5F994459X	MC844G	Dual 3-2 Input Power NAND Gate
U5F994551X	MC945G	Clocked Flip-Flop
U5F994559X	MC845G	Clocked Flip-Flop
U5F994651X	MC946G	Quad Inverter
U5F994659X	MC846G	Quad Inverter
U5F994851X	MC948G	Clocked Flip-Flop
U5F994859X	MC848G	Clocked Flip-Flop
U5F994951X	MC949G	Quad Inverter with 2 k Pullup Resistor
U5F994959X	MC849G	Quad Inverter with 2 k Pullup Resistor
U5F995051X	MC950G	Pulse Triggered Binary
U5F995059X	MC850G	Pulse Triggered Binary
U5F995151X	MC951G	Monostable Multivibrator
U5F995159X U5F996151X	MC851G MC961G	Monostable Multivibrator Dual 3-2 Input NAND
05F990151X	MICSOIG	Gate with 2 k Pullup Resistor
U5F996159X	MC861G	Dual 3-2 Input NAND Gate with 2 k Pullup Resistor
U5F996251X	MC962G	Dual 2-Input NAND Gate Plus Inverter
U5F996259X	MC862G	Dual 2-Input NAND Gate Plus Inverter
U5F996351X	MC963G	Dual 2-Input NAND Gate Plus Inverter
U5F996359X	MC863G	Dual 2-Input NAND Gate Plus Inverter
U6A909359X	MC853P	Dual J-K Flip-Flop
U6A909459X	MC856P	Dual J-K Flip-Flop
U6A909759X	MC855P	Dual J-K Flip-Flop
U6A909959X	MC852P	Dual J-K Flip-Flop
U6A993059X	MC830P	Dual 4-Input NAND Gate
U6A993159X	MC831P	Clocked Flip-Flop
U6A993259X	MC832P	Dual 4-Input Buffer
U6A993359X	MC833P	Dual 4-Input Gate
		Expander

MDTL (cont.)

MDTL (cont.		-
Part	Motorola	
Number	Direct	Description
	Replacement	
U6A993659X	мсвз6Р	Hex Inverter
U6A993759X	MCB37P	Hex Inverter
U6A994459X	MC844P	Dual 4-Input Power
LICA CO AFFOY	MODAED	NAND Gate
U6A994559X U6A994659X	MC845P MC846P	Clocked Flip-Flop
U6A994659A	IVIC846P	Quad 2-Input NAND Gate
U6A994859X	MC848P	Clocked Flip-Flop
U6A994959X	MC849P	Quad 2-Input NAND
		Gate with 2 k
		Pullup Resistor
U6A995059X	MC850P	Pulse Triggered Binary
U6A995159X	MC851P	Monostable
LICAGOGATON		Multivibrator
U6A996159X	MC861P	Dual 4-Input NAND
		Gate 2 k Pullup Resistor
U6A996259X	MC862P	
00/10902097	WC002F	Triple 3-Input NAND Gate
U6A996359X	MC863P	Triple 3-Input NAND
		Gate with 2 k
		Pullup Resistor
ITT		
MIC930-1B	MC930F	Dual 4-Input Gate
MIC930-1C	MC930G	Dual 3-2 Input Gate
MIC930-5B	MCB30F	Dual 4-Input Gate
MIC930-5C	MC830G	Dual 3-2 Input Gate
MIC932-1B	MC932F	Dual 4-Input Buffer
MIC932-1C MIC932-5B	MC932G MC832F	Dual 3-2 Input Buffer
MIC932-5C	MC832F	Dual 4-Input Buffer Dual 3-2 Input Buffer
MIC933-1B	MC933F	Dual 4-Input Expander
MIC933-1C	MC933G	Dual 4-Input Expander Dual 4-3 Input
		Expander
MIC933-5B	MCB33F	Dual 4-Input Expander
MIC933-5C	MC833G	Dual 4-3 Input
		Expander
MIC936-1B	MC936F	Hex Inverter
MIC936-5B	MC836F	Hex Inverter
MIC937-1B	MC937F	Hex Inverter
MIC937-5B MIC944-1B	MC837F MC944F	Hex Inverter
WII C344-1B	WIC944F	Dual 4-Input Power Gate
MIC944-1C	MC944G	Dual 3-2 Input
		Power Gate
MIC944-5B	MC844F	Dual 4-Input Power
		Gate
MIC944-5C	MCB44G	Dual 3-2 Input Power
l		Gate
MIC945-1B	MC945F	Clocked Flip-Flop
MIC945-1C	MC945G	Clocked Flip-Flop
MIC945-5B	MC845F	Clocked Flip-Flop
MIC945-5C	MC845G	Clocked Flip-Flop
MIC946-1B	MC946F	Quad 2-Input Gate
MIC946-5B MIC948-1B	MC846F	Quad 2-Input Gate
MIC948-1B MIC948-1C	MC948F MC948G	Clocked Flip-Flop Clocked Flip-Flop
MIC948-5B	MC848F	Clocked Flip-Flop
MIC948-5C	MC848G	Clocked Flip-Flop
MIC949-1B	MC949F	Quad 2-Input Gate
MIC949-5B	MCB49F	Quad 2-Input Gate
MIC950-1B	MC950F	Pulse Triggered Binary
MIC950-1C	MC950G	Pulse Triggered Binary
MIC950-5B	MCB50F	Pulse Triggered Binary
MIC950-5C	MC850G	Pulse Triggered Binary
MIC951-1B	MC951F	Monostable
MICOS 1 10	MC0510	Multivibrator
MIC951-1C	MC951G	Monostable Multivibrator
MIC951-5B	MCB51F	Monostable
0001-00		Multivibrator
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Part	Motorola Direct	Description
Number	Replacement	Description
MIC951-5C	MCB51G	Monostable Multivibrator
MIC961-1B	MC961F	Dual 4-Input Gate
MIC961-1C	MC961G	Dual 3-2 Input Gate
MIC961-5B	MCB61F	Dual 4-Input Gate
MIC961-5C	MC861G	Dual 3-2 Input Gate
MIC962-1B		
	MC962F	Triple 3-Input Gate
MIC962-5B	MC862F	Triple 3-Input Gate
MIC963-1B	MC963F	Triple 3-Input Gate
MIC963-5B	MCB63F	Triple 3-Input Gate
Philco		
		I
PE9930	МСВЗОР	Dual 4-Input NAND Gate
PE9932	MC832P	Dual 4-Input Buffer
PE9933	MC833P	Dual 4-Input Gate
	1	Expander
PE9944	MC844P	Dual 4-Input Power
BE00.45	MOD CER	NAND Gate
PE9945	MCB45P	Clocked Flip-Flop
PE9946	MCB46P	Quad 2-Input NAND Gate
PE9948	МСВ48Р	Clocked Flip-Flop
PE9962	MCB62P	Triple 3-Input
1 23302	WICDOZI	NAND Gate
PL9930 51	MC930F	
FL9930 51	INIC930F	Dual 4-Input NAND Gate
PL9930 59	MCB30F	Dual 4-Input NAND
		Gate
PL9931 51	MC931F	Clocked Flip-Flop
PL9931 59	MC831F	Clocked Flip-Flop
PL9932 51	MC932F	Dual 4-Input Buffer
PL9932 59	MCB32F	Dual 4-Input Buffer
PL9933 51	MC933F	Dual 4-Input Expander
PL9933 59	MC833F	Dual 4-Input Expander
PL9936 51	MC936F	Hex Inverter
PL9936 59	MC836F	Hex Inverter
PL9944 51	MC944F	Dual 4-Input Power
		NAND Gate
PL9944 59	MC844F	Dual 4-Input Power
		NAND Gate
PL9945 51	MC945F	Clocked Flip-Flop
PL9945 59	MC845F	Clocked Flip-Flop
PL9946 51	MC946F	Quad 2-Input NAND
DI 0046		Gate
PL9946 59	MC846F	Quad 2-Input NAND Gate
PL9948 51	MC948F	Clocked Flip-Flop
PL9948 59	MCB48F	Clocked Flip-Flop
PL9950 51	MC950F	Pulse Triggered Binary
PL9950 59	MC850F	
PL9950 59	MC951F	Pulse Triggered Binary
1 12201 01	MICABIL	Monostable Multivibrator
PL9951 59	MC851F	Monostable
		Multivibrator
PL9962 51	MC962F	Triple 3-Input NAND
DI 0000 50	1100000	Gate
PL9962 59	MCB62F	Triple 3-Input NAND Gate
		Gale
BCA.		
RCA		
00000000		
CD2300/930	MC930F	Dual 4-Input Gate
CD2300E/B30	MCB30P	Dual 4-Input Gate
CD2301/961	MC961F	Dual 4-Input Gate
CD2301E/B61	MC861P	Dual 4-Input Gate
CD2302/946	MC946F	Quad 2-Input Gate
CD2302E/846	MC846P	Quad 2-Input Gate
CD2303/949	MC949F	Quad 2-Input Gate

MDTL (cont.)

MDTL (cont.)						
Part Number	Motorola Direct Replacement	Description		Part Number	Motorola Direct Replacement	Description
CD2303E/849	MC849P	Quad 2-Input Gate	- 1	RM945J	MC945F	Clocked Flip-Flop
CD2304/945	MC945F	Clocked Flip-Flop		RM945T	MC945G	
						Clocked Flip-Flop
CD2304E/845	MC845P	Clocked Flip-Flop		RM946J	MC946F	Quad 2-Input NAND
CD2305/948	MC948F	Clocked Flip-Flop				Gate
CD2305E/848	MC848P	Clocked Flip-Flop	1	RM946T	MC946G	Quad Inverter
CD2306/932	MC932F	Dual 4-Input Buffer		RM948J	MC948F	Clocked Flip-Flop
CD2306E/832	MC832P	Dual 4-Input 8uffer		RM948T	MC948G	Clocked Flip-Flop
CD2307/944	MC944F	Dual 4-Input Power		RM950J	MC950F	Pulse Triggered Sinary
0020077544	WOSTT					
CD2307E/844	MC844P	Gate Dual 4-Input Power		RM950T RM951J	MC950G MC951F	Pulse Triggered 8inary Monostable
CD2308/962	MC962F	Gate Triple 3-Input Gate		RM951T	MC951G	Multivibrator Monostable
CD2308E/862	MC862P	Triple 3-Input Gate				Multivibrator
CD2309/963	MC963F	Triple 3-Input Gate	- 1	RM962J	MC962F	Triple 3-Input
CD2309E/863	MC863P	Triple 3-Input Gate	- 1			NAND Gate
CD2310/936	MC936F	Hex Inverter	- 1	RM962T	MC962G	Dual 2-Input NAND
CD2310E/836	MC836P	Hex Inverter	- 1		00020	
			- 1	DMOCO!	1400505	Gate plus Inverter
CD2311/937	MC937F	Hex Inverter	- 1	RM993J	MC953F	Dual J-K Flip-Flop
CD2311E/837	MC837P	Hex Inverter	- 1	RM994J	MC956F	Dual J-K Flip-Flop
CD2314/933	MC933F	Dual 4-Input	1	RM997J	MC955F	Dual J-K Flip-Flop
		Expander	- 1	RM999J	MC952F	Dual J-K Flip-Flop
CD2314E/833	MC833P	Dual 4-Input	ŀ	Stewart	1	
		Expander		Warner		
Raytheon			ſ	SW705-1F	MC953F	Dual J-K Flip-Flop
RC930J	MC830F	Dual 4-Input NAND	- 1	SW705-11	MC853F	Dual J-K Flip-Flop
HC9303	IVICOSOF		- 1			
		Gate	- 1	SW706-1F	MC952F	Dual J-K Flip-Flop
RC930T	MC830G	Dual 3-2 Input NAND	- 1	SW706-2F	MC852F	Dual J-K Flip-Flop
		Gate	- 1	SW708-1F	MC956F	Dual J-K Flip-Flop
RC932J	MC832F	Dual 4-Input Buffer	- 1	SW708-2F	MC856F	Dual J-K Flip-Flop
RC932T	MC832G	Dual 3-2 Input Suffer	l	SW709-1F	MC955F	Dual J-K Flip-Flop
RC933J	MC833F		- 1	SW709-1F	1	
		Dual 4-Input Expander	- 1		MC855F	Dual J-K Flip-Flop
RC933T	MC833G	Dual 4-3 Input Expander	- 1	SW930-1F	MC930F	Dual 4-Input Gate
RC944J	MC844F	Dual 4-Input Power		SW930-1T	MC930G	Dual 3-2 Input Gate
		NAND Gate	l	SW930-2F	MC830F	Dual 4-Input Gate
RC944T	MC844G	Dual 3-2 Input Power	J	SW930-2T	MC830G	Dual 3-2 Input Gate
		NAND Gate	- 1	SW932-1F	MC932F	Dual 4-Input 8uffer
RC945J	MC845F	Clocked Flip-Flop	ı	SW932-1T	MC932G	Dual 3-2 Input
RC945T	MC845G	Clocked Flip-Flop	- 1			Buffer
RC946J	MC846F	Quad 2-Input NAND Gate		SW932-2F SW932-2T	MC832F MC832G	Dual 4-Input 8uffer Dual 3-2 Input
RC946T	MC846G	Quad Inverter	- 1			8uffer
RC948G	MC848F	Clocked Flip-Flop	- 1	SW933-1F	MC933F	Dual 4-Input
RC948T	MC848G	Clocked Flip-Flop	l	311300-11	14103331	
			ļ	CM000 47	1400000	Expander
RC950J	MC850F	Pulse Triggered Sinary	ļ	SW933-1T	MC933G	Dual 4-3 Input
RC950T	MC850G	Pulse Triggered Sinary	l			Expander
RC951J	MC851F	Monostable Multivibrator		SW933-2F	MC833F	Dual 4-Input Expander
RC951T	MC851G	Monostable		SW933-2T	MC833G	Dual 4-3 Input
BC0631	1400000	Multivibrator		CMCCC 45	MOORE	Expander
RC962J	MC862F	Triple 3-Input NAND	l	SW936-1F	MC936F	Hex Inverter
		Gate	l	SW936-2F	MC836F	Hex Inverter
RC962T	MC862G	Dual 2-Input NAND	l	SW937-1F	MC937F	Hex Inverter
		Gate Plus Inverter	l	SW937-2F	MC837F	Hex Inverter
RC993J	MC853F	Dual J-K Flip-Flop	l	SW944-1F	MC944F	Dual 4-Input Power
			l	3113-7-11	1003441	
RC994J	MC856F	Dual J-K Flip-Flop		01410 44 47		Gate
RC997J	MC855F	Dual J-K Flip-Flop	- 1	SW944-1T	MC944G	Dual 3-2 Input
RC999J	MC852F	Dual J-K Flip-Flop	l			Power Gate
RM930J	MC930F	Dual 4-Input NAND		SW944-2F	MC844F	Dual 4-Input Power Gate
RM930T	MC930G	Gate Dual 3-2 Input NAND Gate		SW944-2T	MC844G	Dual 3-2 Input Power Gate
			- 1	SW945-1F	MC945F	Clocked Flip-Flop
RM932J	MC932F	Dual 4-Input Buffer	l	SW945-1T	MC945G	Clocked Flip-Flop
RM932T	MC932G	Dual 3-2 Input 8uffer	- 1	SW945-2F	MC845F	Clocked Flip-Flop
RM933J	MC933F	Dual 4-Input Gate		SW945-2T	MC845G	Clocked Flip-Flop
		Expander				
	MC933G		. !	SW946-1F	MC946F	Quad 2-Input Gate
		Dual 4-3 Input Expander	1	SW946-1T	MC946G	Quad Inverter
RM933T						
	MC944F	Dual 4-Input Power	ļ	SW946-2F	MC846F	Quad 2-Input Gate
RM933T					MC846F MC846G	Quad 2-Input Gate Quad Inverter
RM933T		Dual 4-Input Power		SW946-2F		

MDTL (cont.)

MDTL (cont.)			
Part	Motorola	Description	
Number	Direct Replacement	Description /	
SW948-2F	MC848F	Clocked Flip-Flop	
SW948-2T	MC848G	Clocked Flip-Flop	
SW949-1F	MC949F		
		Quad 2-Input Gate	
SW949-1T	MC949G	Quad Inverter	
SW949-2F	MC849F	Quad 2-Input Gate	
SW949-2T	MC849G	Quad Inverter	
SW950-1F	MC950F.	Pulse Triggered Binary	
SW950-1T	MC950G	Pulse Triggered Binary	
SW950-2F	MC850F	Pulse Triggered Binary	
SW950-2T	MC850G	Pulse Triggered Binary	
SW951-1F	MC951F	Monostable Multivibrator	
SW951-1T	MC951G	Monostable	
SW951-2F	MC851F	Multivibrator Monostable	
SW951-2T	MC851G	Multivibrator Monostable	
		Multivibrator	
SW961-1F	MC961F	Dual 4-Input Gate	
SW961-1T	MC961G	Dual 3-2 Input Gate	
SW961-2F	MC861F	Dual 4-Input Gate	
SW961-2T	MC861G	Dual 3-2 Input Gate	
SW962-1F	MC962F	Triple 3-Input Gate	
SW962-1T	MC962G	Dual 2-Input Gate	
GV4302*11	WICOCZG	Plus Inverter	
SW962-2F	MC862F	Triple 3-Input Gate	
SW962-2T	MC862G	Dual 2 Input Gate	
011302-21	1000020	Plus Inverter	
SW963-1F	MC963F		
		Triple 3-Input Gate	
SW963-1T	MC963G	Dual 2-Input Gate	
		Plus Inverter	
SW963-2F	MC863F	Triple 3-Input Gate	
SW963-2T	MC863G	Dual 2-Input Gate	
		Plus Inverter	
Sylvania			
S9301-02	MC930F	Dual 4-Input NAND	
		Gate	
S9303-02	MC830F	Dual 4-Input NAND Gate	
S9311-02	MC931F		
		Clocked Flip-Flop	
S9313-02	MC831F	Clocked Flip-Flop	
S9321-02	MC932F	Dual 4-Input Buffer	
S9323-02	MC832F	Dual 4-Input Buffer	
S9331-02	MC933F	Dual 4-Input Expander	
S9333-02	MCB33F	Dual 4-Input Expander	
S9441-02	MC944F	Dual 4-Input Power	
		NAND Gate	
S9443-02	MC844F	Dual 4-Input Power NAND Gate	
S9451-02	MC945F	Clocked Flip-Flop	
S9453-02	MC845F	Clocked Flip-Flop	
S9461-02	MC946F	Quad 2-Input NAND Gate	
S9463-02	MC846F	Quad 2-Input NAND	
S9481-02	MC948F	Gate Clocked Flip-Flop	
S9483-02	MC848F	Clocked Flip-Flop	
S9621-02			
	MC962F	Triple 3-Input NAND Gate	
S9623-02	MCB62F	Triple 3-Input NAND Gate	
Tours			
Texas Instruments	•		
Instruments	MC830E	Dual 4-Input NAND Goto	
Instruments SN15830	MC830F	Dual 4-Input NAND Gate	
Instruments SN15830 SN15830N	MC830P	Dual 4-Input NAND Gate	
Instruments SN15830 SN15830N SN15831	MC830P MC831F	Dual 4-Input NAND Gate Clocked Flip-Flop	
Instruments SN15830 SN15830N SN15831 SN15831N	MC830P	Dual 4-Input NAND Gate	
Instruments SN15830 SN15830N SN15831	MC830P MC831F	Dual 4-Input NAND Gate Clocked Flip-Flop	
Instruments SN15830 SN15830N SN15831 SN15831N	MC830P MC831F MC831P	Dual 4-Input NAND Gate Clocked Flip-Flop Clocked Flip-Flop	

Part Number	Motorola Direct	Description
	Replacement	
SN15833N	MC833P	Dual 4-Input Expander
SN15B44	MC844F	Dual 4-Input Power
		NAND Gate
SN15844N	MCB44P	Dual 4-Input Power
		NAND Gate
SN15845	MC845F	Clocked Flip-Flop
SN15845N	MC845P	Clocked Flip-Flop
SN15846	MC846F	Quad 2-Input NAND Gate
SN15B46N	MC846P	Quad 2-Input NAND Gate
SN15848	MC848F	Clocked Flip-Flop
SN15848N	MC848P	Clocked Flip-Flop
SN15850	MC850F	Pulse Triggered Binary
SN15850N	MCB50P	Pulse Triggered Binary
SN15B51	MCB51F	Monostable
011450541		Multivibrator
SN15851N	MC851P	Monostable
SN15862	MC862F	Multivibrator
SN 15862	MIC862F	Triple 3-Input NAND Gate
SN15862N	MC862P	Triple 3-Input NAND
3141300214	10100021	Gate
SN15930	MC930F	Dual 4-Input NAND
0.01.0000		Gate
SN15931	MC931F	Clocked Flip-Flop
SN15932	MC932F	Dual 4-Input Buffer
SN15933	MC933F	Dual 4-Input Expander
SN15944	MC944F	Dual 4-Input Power NAND Gate
SN15945	MC945F	Clocked Flip-Flop
SN15946	MC946F	Quad 2-Input NAND
		Gate
SN15948	MC948F	Clocked Flip-Flop
SN15950	MC950F	Pulse Triggered Binary
SN15951	MC951F	Monostable Multivibrator
SN15962	MC962F	Triple 3-Input NAND
		Gate

DTL

Signetics		
	T	
CS700G	MC207F	Dual 3-2 Input NAND
		Gate
CS700K	MC207G	Dual 3-2 Input NAND
		Gate
CS701G	MC208F	Dual 3-2 Input NAND
		Gate
CS701K	MC208G	Dual 3-2 Input NAND
007040	MODAGE	Gate
CS704G	MC210F	Clocked R-S Flip-Flop
CS704K	MC210G	Clocked R-S Flip-Flop
CS705G	MC215F	Dual 3-Input AND Gate Expander
CS705K	MC215G	Dual 3-Input AND Gate
C3705K	WCZ 15G	Expander
CS709G	MC217F	Dual 3-Input Diode Array
CS709K	MC217G	Dual 3-Input Diode Array
NE101G	MC251F	4-Input NAND Gate
NE101G	MC251G	4-Input NAND Gate
NE102G	MC252F	3-Input NAND Gate
NE102K	MC252G	3-Input NAND Gate
NE105G	MC253F	6-Input AND Gate
		Expander
NE105K	MC253G	6-Input AND Gate
		Expander
NE110G	MC254F	3-Input Power NAND Gate
NE110K	MC254G	3-Input Power NAND Gate
L	_1	1

DTL (cont.)

Namber		Don't	Motorola	,
NE115G			Direct	Description
NAND Gate		Number	Replacement	
NE115K MC256G Dual 2-Input NAND Gate NE 124G MC259F Clocked R-S Flip-Flop Line Driver NE 124G MC259F Clocked R-S Flip-Flop Clocked R-S Flip-Flop Clocked R-S Flip-Flop Line Driver NE 124K MC258G Dual 3-2 Input NAND Gate Dual 2-Input NAND Gate A-Input NAND Gate A-Input NAND Gate B-Input NAND Gate B-Input AND Gate B-Input AND Gate B-Input AND Gate B-Input AND Gate B-Input Power NAND Gate B-Input Power NAND Gate B-Input NAND Gate B-Inp	NE	115G	MC256F	
NAND Gate				
NE 124G NE 124K NE 150G NE 150G NE 150G NE 700G MC 259F MC 255F MC 255G NE 700G Clocked R-S Flip-Flop Clocked R-S Flip-Flop Clocked R-S Flip-Flop Clocked R-S Flip-Flop Line Driver NE 700G NE 700G MC 257F MC 257F Line Driver Line Driver NE 700G NE 700K MC 257F MC 257F Dual 3-2 Input NAND Gate NE 701G MC 258F MC 258F Dual 3-2 Input NAND Gate NE 701K MC 258G MC 201F SE 101K MC 201G SE 101K MC 201G SE 102G MC 202F SE 102K MC 202G SE 102K MC 202G SE 102K MC 203F MC 201F SE 102K MC 203F SE 103K MC 203F Al nput NAND Gate SE 102K MC 203F SE 103K MC 204F Al nput AND Gate Expander SE 105K MC 204F MC 204F SE 110K MC 204F Al nput AND Gate Expander SE 110G MC 204F MC 204F SE 112K MC 206F Al nput Power NAND Gate Dual 2-Input NAND Gate SE 115K MC 206G SE 124K MC 209F SE 124K MC 209F SE 124K MC 209F SE 1250G MC 209F MC 205F Clocked R-S Flip-Flop Clocked R-S Flip-Flop Line Driver	NE	115K	MC256G	
NE 124K NC 259G NC 255F Line Driver NE.	1240	MCGEOE		
NE150G MC255F Line Driver				
NE150K NC255G Line Driver NE700G MC257F Dual 3-2 Input NAND Gate Dual 3-2 Input NAND Gate NE701G MC258F Dual 3-2 Input NAND Gate Dual 2-1 Input NAND Gate Dual 2-1 Inpu				
NE700G				
NE700K				
NE701G	"	7000	WIC257F	
NE701G	NE	700K	MC257G	Dual 3-2 Input
NE701K	1			NAND Gate
NE701K	NE	701G	MC258F	Dual 3-2 Input
SE 101G	1			NAND Gate
SE101G	NE	701K	MC258G	Dual 3-2 Input
SE101K	1			NAND Gate
SE102G	SE'	101G	MC201F	4-Input NAND Gate
SE102K MC202G 3-I nput NAND Gate	SE'	101K	MC201G	4-Input NAND Gate
SE105G	SE'	102G	MC202F	3-Input NAND Gate
Expander Expander SE105K MC203G 6-Input AND Gate Expander 3-Input Power NAND Gate SE110K MC204F 3-Input Power NAND Gate SE115G MC206F Dual 2-Input NAND Gate SE115K MC206G Dual 2-Input NAND Gate SE124G MC209F Clocked R-S Flip-Flop SE124K MC209G Clocked R-S Flip-Flop SE150G MC205F Line Driver Clocked R-S Flip-Flop Line Driver Coloked R-S Flip-Flop			MC202G	3-Input NAND Gate
SE105K MC203G 6-Input AND Gate Expander	`SE1	105G	MC203F	6-Input AND Gate
Expander SE110G MC204F 3-Input Power NAND Gate 3-Input Power NAND Gate SE115G MC206F Dual 2-Input NAND Gate SE115K MC206G Dual 2-Input NAND Gate SE124G MC209F Clocked R-S Flip-Flop SE124K MC209G Clocked R-S Flip-Flop SE150G MC205F Line Driver Clocked R-S Flip-Flop Line Driver Clocked R-S Flip-Flop Line Driver Clocked R-S Flip-Flop	i i			Expander
SE110G	SE1	105K	MC203G	6-Input AND Gate
NAND Gate SE110K MC204G 3-Input Power NAND Gate				Expander
SE110K MC204G 3-Input Power NAND Gate	SE1	110G	MC204F	3-Input Power
NAND Gate NAND Gate				NAND Gate
SE115G MC206F Dual 2-Input NAND Gate	SE1	110K	MC204G	
SE115K MC206G Dual 2-Input NAND Gate				NAND Gate
SE115K MC206G Dual 2-Input NAND Gate	SE1	l 15G	MC206F	•
Gate Gate SE124G MC209F Clocked R-S Flip-Flop SE124K MC209G Clocked R-S Flip-Flop SE150G MC205F Line Driver				
SE124G MC209F Clocked R-S Flip-Flop SE124K MC209G Clocked R-S Flip-Flop SE150G MC205F Line Driver	SE1	115K	MC206G	•
SE124K MC209G Clocked R-S Flip-Flop SE150G MC205F Line Driver	1 05	1040	1400000	
SE150G MC205F Line Driver				
1				
SE150K MC205G Line Driver	1			
	SE	150K	MC205G	Line Driver

MRTL

Fairchild		
U3F990021X	MC900F	Buffer
U3F990022X	MC800F	Buffer
U3F990321X	MC903F	3-Input NOR Gate
U3F990322X	MC803F	3-Input NOR Gate
U3F990421X	MC904F	Half Adder
U3F990422X	MC804F	Half Adder
U3F990521X	MC905F	Half-Shift Register
U3F990522X	MCB05F	Half-Shift Register
U3F990621X	MC906F	Half-Shift Register
		(w/o Inverter)
U3F990622X	MC806F	Half Shift Register
		(w/o Inverter)
U3F990721X	MC907F	4-Input NOR Gate
U3F990722X	MC807F	4-Input NOR Gate
U3F991421X	MC914F	Dual 2-Input NOR Gate
U3F991422X	MC814F	Dual 2-Input NOR Gate
U3F991521X	MC915F	Dual 3-Input NOR Gate
U3F991522X	MC815F	Dual 3-Input NOR Gate
U3F992621X	MC926F	J-K Flip-Flop
U3F992622X	MC826F	J-K Flip-Flop
U3F992721X	MC927F	Quad Inverter
U3F992722X	MCB27F	Quad Inverter
U5B990029X	MC700G	Buffer
U5B990121X	MC901G	Counter Adapter
U5B990122X	MC801G	Counter Adapter
U5B990229X	MC702G	R-S Flip-Flop
U5B990329X	MC703G	3-Input NOR Gate
U5B990421X	MC904G	Half Adder
U5B990422X	MCB04G	Half Adder
U5B990429X	MC704G	Half Adder
U58990521X	MC905G	Half-Shift Register
U5B990522X	MC805G	Half-Shift Register

	Part Number	Motorola Direct Replacement	Description
_	U5B990529X	MC705G	Half-Shift Register
	U5B990621X	MC906G	Half-Shift Register
	00000002171		(w/o Inverter)
	U5B990622X	MCB06G	Half-Shift Register
			(w/o Inverter)
	U5B990721X	MC907G	4-Input NOR Gate
	U5B990722X	MC807G	4-Input NOR Gate
	U5B990729X	MC707G	4-Input NOR Gate
	U5B991421X	MC914G	Dual 2-Input NOR Gate
	U58991422X	MC814G	Dual 2-Input NOR Gate
	U5B991429X	MC714G	Dual 2-Input NOR Gate
	U5B991621X	MC916G	J-K Flip-Flop
	U5B991622X	MC816G	J-K Flip-Flop
	U58992329X	MC723G	J-K Flip-Flop
	U58997421X	MC974G	J-K Flip-Flop
	U5B997422X	MC874G	J-K Flip-Flop
	U5B997429X	MC774G	J-K Flip-Flop
	U5C990321X	MC903G	3-Input NOR Gate
	U5C990322X	MC803G	3-Input NOR Gate
	U5D990021X	MC900G	Buffer
	U5D990022X	MC800G	Buffer
	U5D990221X	MC902G	R-S Flip-Flop
	U5D990222X	MC802G	R-S Flip-Flop
	U5F991521X	MC915G	Dual 3-Input NOR Gate
	U5F991522X	MC815G	Dual 3-Input NOR Gate
	U5F991529X	MC715G	Dual 3-Input NOR Gate
	U5F992621X	MC926G	J-K Flip-Flop
	U5F992622X	MC826G	J-K Flip-Flop
	U5F992629X	MC726G	J-K Flip-Flop
	U5F992721X	MC927G	Quad Inverter
	U5F992722X	MCB27G	Quad Inverter
	U5F992729X	MC727G	Quad Inverter
	Philco		
	PL9900 21	MC900G,F	
	PL9901 21		Counter Adapter
	PL9902 21		R-S Flip-Flop
	PL9903 21		3-Input NOR Gate
	PL9904 21		Half Adder
	PL9904 29	MC704G,F	
	PL9905 21	•	Half Shift Register
	PL9906 21		Half-Shift Register
	PL9907 21		4-Input NOR Gate
	PL9914 21		Dual 2-Input NOR Gate
	PL9915 21		Dual 3-Input NOR Gate
	PL9916 21		J-K Flip Flop
	PL9923 21		J-K Flip-Flop
_	PL9926 21	MC926G,F	J-K Flip-Flop

mW MRTL

Fairchild		
U3F990821X ,	MC90BF	Half Adder
U3F990921X	MC909F	2-Input Buffer
U3F991021X	MC910F	Dual 2-Input NOR Gate
U3F991121X	MC911F	4-Input OR/NOR Gate
U3F991221X	MC912F	Half Adder
U3F991321X	MC913F	Type "D" Flip-Flop
U3F992121X	MC921F	Dual 2-Input Gate Expander
U5B990821X	MC908G	Half Adder
U5B990829X	MC808G	Half Adder
U5B990921X	MC909G	2-Input Buffer
U5B990929X	MCB09G	2-Input Buffer
U5B991021X	MC910G	Dual 2-Input NOR Gate
U5B991029X	MC710G	Dual 2-Input NOR Gate
U5B991121X	MC911G	4-Input OR/NOR Gate
U5B991129X	MC811G	4-Input OR/NOR Gate
U5B991221X	MC912G	Half Adder
U5B991229X	MC812G	Half Adder
U5B991321X	MC913G	Type "D" Flip-Flop
U58991329X	MC813G	Type "D" Flip-Flop

mW MRTL (cont.)

MC921G MC721G	Dual 2-Input Gate Expander
	Dual 2-Input Gate Expander
MC808G,F MC909G,F MC909G,F MC910G,F MC911G,F MC911G,F MC912G,F MC913G,F MC913G,F MC921G,F MC921G,F	2-Input Buffer 2-Input Buffer Dual 2-Input Gate Dual 2-Input Gate 4-Input Gate 4-Input Gate Half Adder Type "D" Flip-Flop Type "D" Flip-Flop Dual 2-Input Gate Expander Dual 2-Input Gate Expander
	MC808G,F MC909G,F MC809G,F MC910G,F MC811G,F MC811G,F MC912G,F MC913G,F MC813G,F MC913G,F

Part Number	Motorola Direct Replacement	Description
PL9940 21 PL9940 29		J-K Flip-Flop J-K Flip-Flop

* Not pin-for-pin replacement.

Texas Instruments		
MC808G	Half Adder	
MC809G	2-Input Buffer	
MC810G	Dual 2-Input Gate	
MC811G	4-Input Gate	
MC812G	Half Adder	
MC813G	Type "D" Flip-Flop	
MC908G	Half Adder	
MC909G	2-Input Buffer	
MC910G	Dual 2-Input Gate	
MC911G	4-Input OR/NOR Gate	
MC912G	Half Adder	
MC913G	Type "D" Flip-Flop	
	MC808G MC809G MC810G MC811G MC812G MC913G MC908G MC910G MC911G MC912G	

LINEAR INTEGRATED CIRCUITS

Operational Amplifiers

Amelco	
805 BE	MC1533G*
A13-215	MC1531G* MC1530G*
A13-251	
General Electric	·.
4JPA135	MC1531G*
Fairchild	
U3H771231X	MC1712F
U3H771239X	MC1712CF
U3I770929X	MC1709CF
U3I770931X	MC1709F
U5B770931X	MC1709G
U5B770939X	MC1709CG
U5B771231X	MC1712G
U5B771239X	MC1712CG
National	
LM101	MC1539G*
Philco	
PA70931	MC1709F
PA70931	MC1709G
PA70939	MC1709CF
PA70939	MC1709CG
PA71231	MC1712F
PA71231	MC1712G
PA71239	MC1712CF
PA71239	MC1712CG
RCA	
CA3008	MC1430F*
CA3010	MC1430G*
CA3015	MC1430G*
CA3016	MC1430F*
CA3022	MC1709CG*
CA3031	MC1709G*
Raytheon	······································
RM702	MC1712CF
RM702	MC1712CG
RM702	MC1712F
RM702	MC1712G
RM709	MC1709CF

RM709	MC1709CG
RM709	MC1709F
RM709	MC1709G
RM4709	MC1437P*
Olevestice.	
Signetics	
NE505G	MC1430F*
NE505K	MC1430G*
NE505G	MC1431F*
NE505K	MC1431G*
SE505G	MC1530F*
SE505G	MC1531F*
SE505K	MC1530G*
SE505K	MC1531G*
Texas Instrume	nts
SN726	MC1430F*
SN728	MC1431F*
SN52702	MC1712F
SN52702L	MC1712G
SN52709	MC1709F
SN52709L	MC1709G
SN72702	MC1712CF
SN72702L	MC1712CG
SN72709	MC1709CF
SN72709L	MC1709CG
Westinghouse	
WS161Q	MC1531F*
WS174Q	MC1709F*
_	

High-Frequence Amplifiers

Fairchild	
SH9004 U5D 77 0339X	MC1110G MC1550G*
Philco	
PA713 PA7601	MC1550G* MC1550G*
RCA	
CA3002 CA3003	MC1550G* MC1550G*

CA3004 CA3014	MC1550G* MC1314G*							
Signetics								
SE501K	MC1552G*							
Texas Instruments								
SN5510L SN5510 SN5510	MC1510G MC1510F† MC1509F							
Westinghouse								
WM1146T	MC1550G*							

Sense Amplifiers

Fairchild							
U3H771031X U3H771039X U3H771131X U5B771031X U5B771039X U5F771131X	MC1710F MC1710CF MC1711F MC1710G MC1710CG MC1711G						
Philco							
PA71031 PA71031 PA71039 PA71039	MC1710F MC1710G MC1710CF MC1710CG						
Raytheon							
RM710 RM710 RM710 RM710	MC1710CF MC1710CG MC1710F MC1710G						
Sylvania	•						
SA-10	MC1540F*						
Texas Instruments							
SN5500 SN52710 SN52710L SN72710 SN72710L	MC1540F* MC1710F MC1710G MC1710CF MC1710CG						

^{*} Nearest equivalent

[†]Electrically interchangeable; pin-outs different.

DIGITAL APPLICATION SELECTOR GUIDE

This table shows the various circuit functions available in each integrated circuit logic family. "F" indicates the device is available in ceramic flat package, "G" indicates metal can, and "P" indicates dual in-line plastic package. Many of these devices have provision for expanding input capability. See

individual family specifications for detail.

FUNCTION (Positive Logic)	MECL	MECL II	MHTL	MTTL	MTTLII	MTTLIII	MDTL	DTL	MRTL	mW MRTL	MOS
GATES											
Ouad Inverter							G		F,G		
Hex Inverter							F,P		F,P		
3-Input OR/NOR Gate	F,G										
4-Input OR/NOR Gate										F,G	
5-Input OR/NOR Gate	F,G										
6-Input OR/NOR Gate		F,P									
Dual 2-Input OR/NOR Gate	G	F,P									
Dual 4-Input OR/NOR Gate	F	F,P			<u> </u>						
3-Input NOR Gate									F,G		L
4-Input NOR Gate									F,G		
5-Input NOR Gate									F,G	F,G	<u> </u>
Dual 2-Input NOR Gate	F,G								F,G	F,G	ļ
Dual 3-Input NOR Gate	F,G								F,G,P	F,G,P	ļ
Dual 4-Input NOR Gate				ļ				ļ	F,G,P	F,P	
Triple 3-Input NOR Gate		F,P							F,P	F,P	
Ouad 2-Input NOR Gate	F	F,P		-		F,P	F,P		F,P	F,P	
3-Input NAND Gate	1				1			F,G			—
4-Input NAND Gate	ļ	ļ	ļ	<u> </u>				F,G	<u> </u>		1
8-Input NAND Gate	1		ļ <u>.</u>	F,P	F,P	F,P					₩
Dual 2-Input NAND Gate					1	<u> </u>		F,G			
Dual 3-2 Input NAND Gate							G	F,G			<u> </u>
Dual 3-Input NAND Gate	-							F,G			ļ
Dual 4-Input NAND Gate			P	F,P	F,P		F,P				
Dual 2-Input NAND Gate plus Inverter							G				
Triple 3-Input NAND Gate			P	F,P	F,P	F,P	F,P				
Quad 2-Input NAND Gate			Р	F,P	F,P	F,P					
Ouad 2-Input OR Gate						F,P					
6-Input AND Gate								F,G		1	
Dual 3-Input AND Gate								F,G			ļ
Ouad 2-Input AND Gate						F,P			<u> </u>		<u> </u>
Quad Exclusive NOR Gate		F,P									
Ouad Exclusive OR Gate		F,P		<u> </u>					F,P		
2-Wide 3-Input AND-OR-INVERT Gate with Gated Complement				F,P							
2-Wide 4-Input AND-OR-INVERT Gate				F,P	F,P						
3-Wide 3-Input AND-OR-INVERT Gate				F,P							
4-Wide 2-2-2-3 Input AND-OR-INVERT Gate				F,P	F,P						
Dual 2-Wide 2-Input				F,P	F,P	F,P					
AND-OR-INVERT Gate		I			<u>. </u>	<u> </u>	1	L	4	1	1
GATE EXPANDERS 5-Input Gate Expander	F,G		1	!	1	Τ			1	Ī	Т
6-Input Gate Expander	1.,5						<u> </u>	F,G			
Dual 2-Input Gate Expander	-	 	-	 				- · · · ·	 	F,G	
Dual 3-Input Gate Expander	 	-			 	 		F,G	-		T
Dual 3-4 Input Gate Expander	+	ļ				l	G		†	1	1
5 141 E 1 C NAME	+								†	1	1
Gates	-			F,P			F,P				
Dual 4-Input Expander for AND-OR-INVERT Gates				F,P	F,P	F,P					1
Dual 4-Input Gate Expander			P	_		ļ			F,P	1	+
Dual 4-5 Input Gate Expander		F,P	<u> </u>							1	
4-Wide 3-2-2-3 Input Expander for AND-OR-INVERT Gates				F,P	F,P						
Ouad 2-Input Gate Expander									F,P	F,P	
Hex Expander									F,P	1	

(continued on next page)

DIGITAL APPLICATION SELECTOR GUIDE (continued)

FUNCTION (Positive Logic)	MECL	MECL II	MHTL	MTTL	MTTLII	MTTL III	MDTL	DTL	MRTL	mW MRTL	MO
FLIP FLOPS											
J-K Flip-Flop	F,G	F,P		F,P	F,P	F,P	F,G,P		F,G,P	F,G,P	
R-S Flip-Flop	F,G		Р	F,P					G		
Clocked R-S Flip-Flop	1					-	F,G,P	F,G			
Type D Flip Flop		F,P							-	F,G	
Dual J-K Flip-Flop			Р			F,P	F,P		F,P	F,P	
Dual Clocked R-S Flip-Flop		F,P									
Dual Type D Flip-Flop						F,P				F,P	
DRIVERS & BUFFERS											
3-Input NAND Power Gate								F,G			
Dual 3-2 Input NAND Power Gate							G				
Dual 4-Input NAND Power Gate						F,P	F,P				
Dual 4-Input AND Power Gate						F,P	4				
Bias Driver	F,G										
Line Driver	F,G		P	F,P		F,P	F,G,P	F,G			L
Lamp Driver	F,G						G				L
Dual 2-Input Clock Driver	G				•						ļ
Dual 4-Input OR/NOR Clock Driver	F	Р									L
Buffer Inverter									F,G		
2-Input Buffer										F,G	
Dual Buffer Inverter									F,G,P		
Dual 2-Input Buffer										F,G,P	
Dual 3-2 Input Buffer							G				
Dual 3-Input Buffer									F,P		
Dual 4-Input Buffer	<u> </u>		<u> </u>				F,P				
MISCELLANEOUS											
Half Adder	F,G								F,G	F,G	
Dual Half Adder									F,P		
Full Adder		F,P							F,G	F,G	
Dual Full Adder									F,P		
Full Subtractor		F,P									
Dual Full Subtractor									F,P		
Half-Shift Register									F,G		
Half-Shift Register (without inverter)									F,G		
Dual Half-Shift Register									F,P		
Dual Half-Shift Register (without inverter)		-							F,P		
Monostable Multivibrator	t	<u> </u>					F,G,P				
Level Translator	F,G	F,P					,-,				
Quad Line Receiver	, , <u>, , , , , , , , , , , , , , , , , </u>	F,P									
1 J-K FF, 1 Expander, 2 Buffers									Р		
1 J-K FF, 1 Inverter, 2 Buffers									Р		
Dual 3-Input Diode Array				1				F,G			
Counter Adapter									G		
Decade Counter							F,P				
Binary Up Counter (Divide by 16)							F,P				
Data Distributor		F,P									
Dual Keyer Gate											Р
Frequency Divider											Р
16-Bit Memory		P	l								